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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/284,152	06/03/1999	MARK AARON EMALFARB	3123-4000US2	1956
27123 7590 08/28/2007 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER FRONDA, CHRISTIAN L	
			ART UNIT 1652	PAPER NUMBER
			MAIL DATE 08/28/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/284,152

Applicant(s)

EMALFARB ET AL.

Examiner

Christian L. Fronda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-109 is/are pending in the application.
- 4a) Of the above claim(s) 67-79 and 84-108 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 is/are allowed.
- 6) ☒ Claim(s) 2-65, 80-83 and 109 is/are rejected.
- 7) ☒ Claim(s) 66 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/06/2007 has been entered.
2. Claims 1-109 are pending in this application. Claims 67-79 and 84-108 have previously been withdrawn from consideration.
3. Claims 1-66, 80-83, and 109 are under consideration.

#### ***Claim Rejections - 35 U.S.C. § 112, 2nd Paragraph***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 2-23 and 109 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.  
The claims recite compositions obtained by a method comprising growing a wild type or mutant fungus. The claims are vague and indefinite because it is not known how the compositions can be made by simply growing any of the recited fungi. Amending the claims to recite growing the recited fungi in media and then isolating the cellulase for the claimed composition would help in overcoming the rejection.

#### ***Claim Rejections - 35 U.S.C. § 112, 1st Paragraph***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:  
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
7. Claims 2-65 and 80-83 are rejected under 35 U.S.C. 112, first paragraph, as failing to

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comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants' arguments filed on 06/06/2007 have been fully considered but are not persuasive for reasons of record as supplemented below.

For claims drawn to a genus, MPEP § 2163 states the written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show that applicant was in possession of the claimed genus. See *Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406. MPEP § 2163 states that a representative number of species means that the species which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus.

There is no disclosed structural features and properties commonly shared and possessed by each of the claimed genus of cellulases, genus of endoglucanases, and a genus of cellobiohydrolases. As stated in the previous Office Action, the scope of the each genus includes many members with widely differing structural, chemical, and physiochemical properties including widely differing amino acid sequences. Furthermore, each genus is highly variable because a significant number of structural differences between genus members exists. There is no disclosed correlation between the structures of each of the genus of cellulases, genus of endoglucanases, and a genus of cellobiohydrolases with their respective enzymatic activities. Thus, one skilled in the art cannot predict, visualize, and/or recognize the identity of additional members of each of the claimed genus of genus of cellulases, genus of endoglucanases, and a genus of cellobiohydrolases.

While the specification discloses a mutant cellulase from a mutant strain of C-1 (see Example 14), The specification does not describe and define any structural features and amino acid sequences commonly possessed by each genus. Furthermore, as stated in the previous Office Action applicants acknowledge that the structures of the cellulases were not known at time of filing (see **RESPONSE UNDER 37 CFR 1.116** dated 06/14/2002, page 3, lines 4-5). Thus, one skilled in the art cannot visualize or recognize the identity of the members of each claimed genus. Therefore, the instant claims are not adequately described.

### ***Claim Rejections - 35 U.S.C. § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

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obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-4, 6-65, 80-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parslow et al. (US Patent 4,661,289) in view of Janeckova et al. (Ceska Mykologie, (1977) Vol. 31, No. 4, pp. 206-213(Abstract)).

Parslow et al. teach compositions comprising fungal cellulase, surfactants, cationic fabric-softening compound, and builders (see entire US 4,661,289). Parslow et al. further teach that these compositions comprising fungal cellulase are useful for cleaning and softening natural and synthetic fibers (see entire US 4,661,289). Parslow et al. do not teach the claimed composition.

Janeckova et al. teach *Chrysosporium lucknowense* isolated from soil (see Abstract). Bukhtojarov et al. provide evidence that *Chrysosporium lucknowense* contains cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity, specifically EG24 and EG47(see Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Parslow et al. such that the *Chrysosporium lucknowense* cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity are substituted for or added into the compositions taught by Parslow et al. One of ordinary skill in the art at the time the invention was made would have been motivated to do this because Parslow et al. teach that compositions comprising fungal cellulases are useful for cleaning and softening natural and synthetic fibers and that neutral/alkaline cellulases have the advantage of better wash performance within a wider pH range.

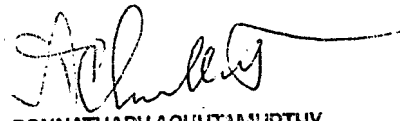
It would have been obvious to one of ordinary skill in the art at the time the invention was made to mutate the selected fungus by methods well known in the art such as treatment of fungus with UV irradiation, chemical mutagens such as nitrous acid, and site-directed mutagenesis; and select mutant fungus strains with the desired property such as increased or neutral/alkaline cellulase activity by assaying and screening for mutants having the desired property. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dilute or concentrate the *Chrysosporium lucknowense* cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity to either 964, 191, or 124 units of cellulase activity per gram of dry composition in order to optimize for cleaning and softening natural and synthetic fibers. Thus, the claimed invention was within the ordinary skill in the art to make and use at the time was made, and was as a whole clearly prima facie obvious.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### *Conclusion*

10. Claim 1 is allowed.
11. Claim 66 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian L Fronda whose telephone number is (571)272-0929. The examiner can normally be reached Monday-Friday between 9:00AM - 5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura N Achutamurthy can be reached on (571)272-0928. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.
13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). CLF

  
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